STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. Highlighted questions are supplemental to the standard SEPA checklist. These questions look at the proposed project in relationship to the surrounding landscape. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable Timber Sale Name: The Old Fogy Agreement #:30-074420

2. Name of applicant: Department of Natural Resources

3. Address and phone number of applicant and contact person:
   Department of Natural Resources
   950 Farman Ave N
   Enumclaw, WA 98022-9282
   360-825-1631
   Contact Person: Edward Keeley

4. Date checklist prepared: 10/21/2002

5. Agency requesting checklist: Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. Auction Date: 12/17/03
   b. Planned contract end date (but may be extended): October 31, 2005
   c. Phasing:

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. Site Preparation: None

   b. Regeneration Method: Hand planting of Douglas-fir shall be completed within the first planting season after harvest

   c. Vegetation Management: Needs will be assessed 5 – 7 years after harvest

   d. Thinning: Needs will be assessed 10 – 15 years after harvest

   Roads: The roads that are part of this proposal will receive periodic road maintenance such as grading, ditch cleanout, and vegetation management, during and upon completion of harvest activities. The mainline haul roads outside the harvest area will be used for future forestland management activities such as timber harvesting, recreation, and fire control. All roads within the timber sale area will be abandoned in accordance to the current Forest Practice Standards, after completion of harvest activities.

   Rock Pits and/or Sale: Rock for the construction of the landings and surfacing for the new road construction may come from the Primo Rock Pit located in the SW ¼ NW ¼ SW ¼ Section 20, Township 15 North, Range 6 East, W.M. The pit will remain open for future use such as surfacing of timber sale roads and routine road maintenance.

Other:

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐ 303(d) – listed water body in WAU: ☐ temp. ☐ sediment ☐ completed TMDL (total maximum daily load):
☐ Landscape plan:
☒ Watershed anaylysis: Mashel WAU completed March 1997-available at South Puget Sound DNR, Enumclaw.
☐ Interdisciplinary team (ID Team) report:
☒ Road design plan: dated 1/14/03:
☒ Wildlife report: dated 10/16/2002
☐ Geotechnical report: _____
☒ Other specialist report(s): Geologist report, dated 8/16/02
☐ Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):
☒ Rockpit Plan: In the road plan
☒ Other:

1) Owl habitat surveys for 1996.
2) Forestry Handbook (1999).
3) State Soil Survey
4) GIS WAU Analysis: Maps and data pertaining to Mass Erosion and Erosion Potential, Hydrologic Maturity and roads per square mile, rain-on-snow zone. This information has been adjusted where more recent and accurate proprietary data exists.
5) DNR Trax System/P&T Special Concerns Report.
6) Endangered Species Act (ESA) 1973.
7) Nisqually River Management Plan.
8) Habitat Conservation Plan
9) Dept of Fish And Wildlife, Priority Habitat Species (PHS)

The information listed above is available for review at the SEPA Center during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. None known

10. List any government approvals or permits that will be needed for your proposal, if known.

☒HPA ☐Burning permit ☐Shoreline permit ☒Incidental take permit ☒FPA # ☒Other:Board of Natural Resources approval

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

a. Complete proposal description:

Estimated Volume: 3,364 MBF
Gross acres in proposal: 100
Net acres in proposal: 83
Type of harvest: Regeneration
Logging system: Ground based
Roads: Refer to Road activity summary in 11.c below
Landings: 3 acres
Rock pits: Refer to Rock Pits in A 7 above.
Other timber sales: None
Special forest products sales: None

The Old Fogy timber sale is located within the Elbe Hills State Forest near the town of Ashford, Washington, southeastern Pierce County. The harvest area lies adjacent to the headwaters of Beaver Creek, which flows into the Beaver Creek Wetland complex. The original proposal area was approximately 100 acres and was reduced to a net acreage of 83 acres due to protection measures put in place for the streams and wetlands found adjacent to the final harvest area. The harvest area straddles the hydrological boundary between the Ashford and Mashel River WAU's.

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

The proposed harvest unit is located on gently rolling to moderately steep terrain within the peak rain-on-snow and snow-dominated zones. The stand is hydrologically mature 60 to 70 year old second growth timber and is within a designated Northern Spotted Owl Dispersal Management Area. The primary timber species found within the stand are Douglas-fir, western hemlock, red alder, and cottonwood.

Upland species such as deer, elk, black bear, and cougar use the proposal area. Beaver, rough-skinned newts, amphibians, and cutthroat trout are known to reside and or use the streams and associated riparian areas in the Beaver Creek sub-basin. Plants such as salmonberry, devils club, Vaccinium spp., salal, Oregon grape, and sword fern are common understory species within the proposal area. These species plus skunk cabbage and sedges are found within the riparian buffers adjacent to the proposal.

The soils found within the proposed harvest area have insignificant mass wasting potential and medium erosion potential. The soils do not pose any significant environmental concerns due to logging or road construction occurs on them. Operations will comply with the Forest Practice rules and the Prescriptions of the Mashel Watershed Analysis, and the procedures of the Habitat Conservation Plan, (HCP).

Short Term Objectives:
1) Provide revenue for the Trust.
2) Abandon excess roads.
3) Locate and mark clumps of trees to be left within the sale area. This effort will create an important future component of the stand. The development of the clumps over time will promote structural diversity, while providing habitat for various species of animals and birds that are known to use the area.

Long-term objectives:
1) Silviculture; a series of intermediate treatments will be scheduled as the new stand develops. The primary objective of each treatment will be to stimulate wood production, eliminate competing vegetation, and generate revenue.
2) Habitat Management; create, maintain and improve the developing stand as part of the overall objective to create quality dispersal and wildlife habitat.

3) Resource Management; the protection of soil productivity and water quality. Harvest prescriptions will be designed to prevent soil erosion, and limit soil compaction. Large coarse woody debris will remain on site to contribute to soil productivity.
4) Manage a renewable resource for the benefit of the trust.

c. Road activity summary. See also forest practice application (FPA) for maps and more details on DNR website http://www.dnr.wa.gov under forest practice applications.

Type of Activity	How many	Length (feet) (estimated)	Acres (estimated)	Fish Barrier Removals (#)
Construction		865	1.2	0
Reconstruction		150		0
Maintenance		15,312		0
Abandonment		4,610	5	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	1			1
Culvert Install/Replace (no fish)	2			

The 865 feet of road construction is within the proposed sale area. The 150 feet of reconstruction is on the 8 road where a fish barrier will be removed and replaced with a new fish passable structure.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See timber sale map. See also color landscape/WAU map on DNR website http://www.dnr.wa.gov under "SEPA Center.")

a. Legal description:

T15N R6E S18
T15N R6E S19
T15N R6E S20

b. Distance and direction from nearest town (include road names):

The proposal is located northwest of the town of Ashford in the Elbe Hills State Forest, approximately 5 miles by road via Hwy. 706, and the 278th Ave entrance.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.wa.gov/dnr/ under "SEPA Center")

The proposal is located within portions of the Ashford and Mashel River WAUs.

WAU Name	Sub-Basin	Proposal Acres
ASHFORD	#19473	46
*MASHEL	#19228	37

*SEPA Map shows the Mashel WAU incorrectly as the Busywild WAU. Correct name is the Mashel River WAU.

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.wa.gov/dnr/ under "SEPA Center," for a broader landscape perspective.)

Name of WAU or sub-basin	Acres	DNR managed acres	Private managed acres	Percent DNR managed land	Percent private managed land	Proposal Acres
Mashel	57,070	15,140	41,930	27	73	37
Ashford	27,587	8,376	19,211	30	70	46

The table below reports recent timber harvest activity within the last seven years on Department lands, as well as future planned timber harvests on Department lands. The same chart also reports recent past harvesting on private lands, but no attempt was made to predict future timber harvests on private land. Data for Department harvests was compiled from the Department's GIS database. Data for private harvesting was estimated from the WAU maps created in August and September of 2002.

NAME OF WAU	DNR ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS + SOLD TIMBER SALES NOT HARVESTED YET (WILL BE EVEN AGED HARVESTING)	DNR ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS	DNR PLANNED HARVEST ACRES WITHIN NEXT FIVE YEARS	PRIVATE ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	PRIVATE ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS
Mashel	1,949	297	213 EVEN-AGED 1,692 UNEVEN-AGED	4,563	1,722
Ashford	664	106	133 EVEN-AGED 596 UNEVEN-AGED	831	178

The Mashel River WAU is 57,070 acres in size, 73% is in private ownership, and the remaining 27% is managed by the Department of Natural Resources. In the past seven years on private lands (mostly industrial) within the WAU, approximately 15% of the land base has had some form of Forest Practices harvest or road activity. The private industrial lands have been harvested at least once. In the lower portions of the WAU they have started harvesting their third rotation. The Forest Practices in the WAU are subject to the requirements of the Mashel Watershed Analysis dated March 1997, on file at the SPS Region Office. The Causal Mechanism Reports (CMR's) of the analysis are targeted at activities in or adjacent to areas of resource sensitivity. These include: water resources, areas of potential mass wasting, unstable ground and soil erosion. In the past seven years on the DNR managed lands within the WAU, approximately 15% of the land base has had some form of Forest Practices harvest or road activity. The DNR managed lands within the WAU have had permits on approximately 2.1% of the land base per year over the last seven years. This rate of harvest will continue until minimum dispersal levels

have been reached. In the next 5 year period the majority of the timber harvested in the WAU on DNR managed lands will come from variable density thinings designed to improve dispersal habitat.

The Ashford WAU is 27,587 acres in size, 70% is private ownership and 30% is managed by the Department of Natural Resources. In the past seven years on private lands (mostly industrial) within the WAU, approximately 5% of the land base has had some form of Forest Practices harvest or road activity. The DNR managed lands in the WAU have had permits on less than 9% of the land base over the same seven-year period. The rate of regeneration harvest on DNR land is expected to continue at 2% percent per year for the next year, or until the minimum dispersal levels are reached. The harvest strategies will then change to variable density thinnings designed to improve dispersal habitat.

The road maintenance schedule in both of the WAU's is on track to have all fish blockages removed by 2015. Much of this work will be accomplished over time in conjunction with several timber sales, currently in the planning process. In addition to the fish blockages any undersized culverts found as part of the planning processes, will be replaced.

The implementation of the procedures of the Habitat Conservation Plan (HCP), the use of the CMR's from the Mashel River Watershed Analysis, and compliance with existing Forest Practice regulations will minimize or prevent any potential impacts that this proposal may have on the environment, working in combination with past, current and future activities in the foreseeable future.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☒ Flat, ☒ Rolling, ☐ Hilly, ☐ Steep slopes, ☐ Mountainous, ☐ Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Mashel River WAU is generally rolling topography with upland benches, ridge tops, and mountainsides between 452 feet and 4,869 feet in elevation. The average elevation within the WAU is 2,212 feet. Elbe Hills is in the transition area between Maritime and Cascade climate zones. There are six precipitation ranges within the WAU. They range from a low of 45 inches to a high of 90 inches per year. The majority of the precipitation falls within the 50 to 70 inch range, mostly falling between October and June. The temperatures range from a low of 10 degrees Fahrenheit in the winter to highs of at least 90 during the summer. In areas above 2,500 feet, snow normally covers the ground from December through March. The primary timber types are Douglas fir and western hemlock, although noble fir and silver fir are found in the higher elevations. The private industrial lands have been harvested at least once. The western portion of the WAU is rural housing and the town of Eatonville.

The terrain within the Ashford WAU is varied with steep mountainous slopes in the Eastern portion of the WAU, and gentle slopes (rolling and hilly) in the Western half of the WAU. The Nisqually Valley, through which the Nisqually River flows, is a broad open valley; the terrain adjacent to the river is flat and gentle. Douglas fir and western hemlock are the main woodland species with red alder, western red cedar, black cottonwood, and big leaf maple present to a lesser extent. In the higher elevations of the WAU noble fir and silver fir are present. The common under story plants present are Oregon grape, bracken fern, sword fern, vine maple, red huckleberry, common grasses, and devils club. Relief ranges from a low 1,200 feet at the town of Elbe to a high of 3,100 feet near the northern boundary. Elbe Hills is the transition area between the Maritime and Cascade climate zones. Typical annual precipitation is 70 inches, mostly falling between October and June. In the areas above 2,500 feet snow normally covers the ground from December through March. The temperatures range from lows below zero during the winter in the higher portions of the WAU, to highs of 90's in the lower areas of the WAU in the summer.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposed sale area is a representative example of the Mashel River and Ashford WAU's at the same elevation and aspect.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope within the harvest area is 20 percent.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
9828	LOAM	6-30	83	INSIGNIFIC'T	MEDIUM

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

There are no indications or history of unstable soils in the immediate vicinity.

2) Is there evidence of natural slope failures in the sub-basin(s)?

☒No ☐Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

There are no known natural slope failures within the sub-basins. The analysis of aerial photos and field inspections of the immediate vicinity have not found any evidence of recent or past natural slope failures.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?

☐No ☒Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:
Associated management activity:

There have been slope failures in the eastern and northern more mountainous portion of the WAU on private land, mostly industrial. The majority of these failures have occurred in the vicinity of old roads. The failures were caused, in part, by poor road locations, inadequate engineering/design of the roads, and lack of maintenance. There is a small shallow surface failure, approximately 1.25 miles away, in a 15 year old plantation. The failure is less than 1/10 acre in size on slopes in excess of 50 percent. It is approximately 100 feet from a Type 3 stream, without any buffers. The failure is approximately 10 years old.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?

☒No ☐Yes, describe similarities between the conditions and activities on these sites:

This proposal is located on flat ground. The streams and wetlands adjacent to the harvest proposal are protected with buffers required by the HCP.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

Given the gentle terrain and the soil type there is no need for any specific protection measures. The sale boundary location and width of the buffers (100 feet and 183 feet) will provide sufficient protection.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 1.2 Approx. acreage new landings: **3** Approx. acreage rock pit fills: **0** Fill source: **NA**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some erosion could occur on the soil type found within the proposed sale area. Prudent road construction utilizing the Best Management Practices (BMP's) described in the Forest Practices rules will minimize the amount if not eliminate the potential for erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
Approximate percent of proposal in permanent road running surface (includes gravel roads):

The proposed spur may be surfaced with 9 inches of rock. The surfacing is approximately 2/10 of an acre, this amounts to less than 1 percent of the proposed sale area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

The harvest proposal is in compliance with the procedures of the HCP, the prescriptions from the Mashel Watershed analysis and the current Forest Practice rules. In addition, contract language will prohibit yarding operations during periods of wet weather if excessive rutting occurs. The end of logs will be suspended while yarding, and skid trails will be designated. The location and design of the new road construction was chosen to minimize soil displacement.

2. **Air**

a. What types of emissions to the air would result from the proposal (i.e., dust from truck traffic, rock mining, crushing or hauling, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No emissions are anticipated other than minor amounts of equipment exhaust and road dust created by truck traffic. If slash is burned it will be done in accordance with the State Smoke Management Program.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None Known

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None

3. **Water**

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There is a Type 3 stream adjacent to the northeastern boundary of this proposal. On the northwestern side there is a Type 3 stream wetland complex that flows in and out of a series of Type 2 ponds. The stream wetland complex is part of the headwaters of Beaver Creek. Beaver Creek flows into the Beaver Creek wetland complex and ultimately flows into the Mashel River.

a) Downstream water bodies:

The Beaver Creek Wetland Complex, and the Mashel and Nisqually Rivers.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Stream	3	2	183
Wetland/Stream Complex	A	1	183
Wetland	Forested	1	100
Pond	2	2	183

c) List RMZ / WMZ protection measures including silvicultural prescriptions, road-related RMZ/ WMZ protection measures, and wind buffers.

The Type 3 streams, wetlands and ponds adjacent to the northeastern and northwestern boundaries are protected with 183 foot wide buffers. The forested wetland on the southern edge of the sale is protected by a 100 foot wide buffer. The placement and width of the buffers will provide protection for water quality, shelter and foraging areas for the riparian dependent species.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

☐No ☒Yes (See RMZ / WMZ table above and timber sale map.)

Description (include culverts):

Felling and yarding will take place within 200 feet of all the above water types but not less than those shown on the above chart. The stream and wetland buffers meet or exceed the requirements of the HCP and the prescriptions from the Mashel Watershed analysis.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Approximately 249 yards of material will be removed from the existing streambed to accommodate the fish passage structure installation. The excavated material will be removed from the streambed and placed at a stable location at station 1+40 on the 8 road.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (Include diversions for fish-passage culvert installation.)

☐No ☒Yes, description:

Stream flow and subsurface flow will be diverted during construction of fish passage structure, flow will be diverted during work inside the ordinary high water mark. Stream flow will be placed into the downstream channel while sub-surface flow (from excavated area) will be diverted to the forest floor for filtration of sediments.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

☒No ☐Yes, describe location:

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

☒No ☐Yes, type and volume:

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Yes, GIS soils maps indicate that two percent of the Mashel River WAU contains soils that are susceptible to mass wasting, and six percent of the WAU contains soils with high erosion potential. The majority of the soils that are susceptible to mass wasting are located in the upper areas of the WAU, above the Mashel River. This area is approximately two miles from the proposed harvest area.

The GIS maps indicate that seven percent of the Ashford WAU contains areas of high erosion potential, and eight percent of the WAU contains areas of medium or high mass wasting potential. The majority of the unstable soils are found within incised channels adjacent to streams in the higher elevations of the WAU. The areas that contain these soils are approximately three miles away form the proposed harvest area.

None of the soils that have a high mass wasting potential or high erosion potential are found within the proposed harvest area.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?

☐No ☒Yes, describe changes and possible causes:

There is known evidence of changes to the streams in the Sub-Basin's caused by surface erosion or mass wasting.

There is evidence to suggest that some of the above changes have occurred during periods of peak rain on snow events, in the upper reaches of the Mashel River WAU, approximately two to five miles from this proposal. These changes were caused by slope failures and increased flows primarily triggered by poor road locations and construction techniques.

There is no evidence of changes to the channels in the Ashford WAU due to surface erosion or mass wasting events. The Nisqually River has experienced increased flows, caused by major rain-on-snow events. These events result in changes to both the channel dimensions and direction.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above.

☒No ☐Yes, explain:

Some minor erosion may occur, this proposal will not increase the potential for mass wasting or any event that would significantly impact water quality. Erosion control measures to reduce the potential for sediment delivery to surface waters will be implemented as described in B1h.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

There is an average of 4.8 miles of road per square mile in the Mashel River WAU. The Department of Natural Resources manages 15,391 acres within the WAU, which contain 2.3 miles of road per square mile. Private ownership contains 5.7 miles of road per square mile.

There are 4 miles of road per square mile within the Ashford WAU. The Department of Natural Resources manages 7,696 acres within the WAU, which contain 3.4 miles of the roads per square mile.

Approximately 75 percent of the ditches in the two WAUs carry water during the winter and spring months.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?

☒No ☐Yes, describe:

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, **stop here** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.

☐No ☒Yes, approximate percent of WAU in significant ROS zone:

Approximate percent of sub-basin(s):

The entire proposal is within the significant rain-on-snow zone. Approximately forty five percent of the proposed sale area in sub-basin #19228, seventy eight percent of the sub-basin is in the significant rain-on-snow zone. Approximately fifty five percent of the proposed sale area is in sub-basin #19473, sixty one percent of the sub-basin is in the significant rain-on-snow zone.

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is(are) rated as hydrologically mature?

This information is for DNR managed lands only: Sub-basin # 19228, seventy one percent is hydrologically mature. Sub-basin # 19473, seventy nine percent is hydrologically mature.

13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?

☐No ☒Yes, describe observations:

Upon site inspection there was no evidence found of significant erosion in the Beaver Creek drainage within the Mashel WAU, or the Sahara Creek drainage of the Ashford WAU. No visible evidence of debris dam breaks, debris flows, torrents, channel dimension changes, or decrease in large organic debris were noticed. However, there is evidence to suggest that major changes have occurred during periods of peak flow of the Mashel River and Nisqually River, caused by major rain-on-snow events. These changes were influenced by slope failures and increased flows from past, poor harvest methods, road locations and construction techniques. Generally the damage was caused by debris torrents and slope failures that occurred during periods of peak flow, caused by major rain-on-snow events and have delivered directly to streams. All activities, since 1997, in the Mashel WAU have been subject to the Forest Practice Watershed Analysis prescriptions on file at the South Puget Region Office in Enumclaw.

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.

This proposal is in the same general area as other recent harvesting activities. Upon site inspection of this proposal there is no indication that past, current, or foreseeable future proposals working in combination with this proposal would contribute to a water runoff problem in the Mashel River or Ashford WAU's.

15) Is there a water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?

☒No ☐Yes Possible impacts:

16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.

This proposal is in compliance with the prescriptions of the Mashel watershed analysis. The current guidelines for the HCP implementation include prescriptions that address the potential for peak flow impacts. First, there will be a minimum of ten leave trees per acre left on the site to assist in soil protection. The HCP procedure PR-14-040-006, assessing the hydrological maturity levels assures that the sub-basins within the rain-on-snow zone will not be allow to reach a point were they are at risk to contribute to a peak flow problem. Finally this proposal includes the maintaining of cross drains and ditch outs on the haul routes. These structures will ensure that ditch water is deposited on the forest floor and not allowed to flow directly into typed waters.

b. Ground Water:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Does not apply.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Does not apply.

3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result of this proposal?

☒No ☐Yes, describe:

a) Note protection measures, if any.

None

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The location of the culverts (cross drains) will be selected so as to disperse the storm water from the ditches onto the forest floor. The frequent spacing of culverts will minimize the distance water flows before being dispersed onto the forest floor. Consequently, no surface or ditch water will flow directly into existing stream channels. Cross drains will be used to channel runoff onto the forest floor. No water runoff will be channeled onto exposed soils.

There will be insignificant amounts of water runoff from skid trails, which traverse sloped terrain. The skid trails will be water barred, and closed with logging slash to direct runoff onto the forest floor. No surface runoff will be directed towards streams, thus eliminating any risk of eroded materials entering streams.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minor amounts of lubricants and other petroleum products, which wash off the machinery during periods of rain, could reach ground or surface waters. There is no reason to expect that any petroleum products could enter surface waters.

a) Note protection measures, if any.

The lubricants and petroleum products used by the machinery will not be disposed of on site.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.

Roads and landings are located away from streams and wetlands. Road construction techniques call for; adequate ballast and surfacing, seasonal restrictions on construction, hauling, and yarding will reduce or minimize potential surface erosion problems. The frequent spacing and placement of culverts with head walls, catch basins and energy dissipaters will reduce surface, ground and water runoff impacts.

4. **Plants**

a. Check or circle types of vegetation found on the site:

☒ deciduous tree: ☒alder, ☐maple, ☐aspen, ☒cottonwood, ☐western larch, ☐birch, ☐other:
☒ evergreen tree: ☒Douglas-fir, ☐grand fir, ☒Pacific silver fir, ☐ponderosa pine, ☐lodgepole pine, ☒western hemlock, ☐mountain hemlock, ☐Englemann spruce, ☐Sitka spruce, ☒red cedar, ☐ yellow cedar, ☐other:
☒ shrubs: ☒huckleberry, ☒salmonberry, ☐salal, ☐other:
☐ grass
☐ pasture
☐ crop or grain
☒ wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒devil's club, ☐other:
☐ water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐ other types of vegetation:
☐ plant communities of concern: None

A review of P&T special concerns report and the Natural Heritage Data base along with site visits found no sensitive plant species.

b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

This proposal involves the harvest of approximately 3,364 MBF of mixed conifers and hardwoods from 83 acres. During the felling and yarding process the subordinate vegetation within the sale area will be damaged.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website http://www.wa.gov/dnr/ under “SEPA Center”.)

The stands immediately adjacent to the proposed harvest area are typical of the second growth stands found in both WAUs at the same elevation and aspect. There is a small patch of murrelet habitat, with its unique structural characteristics, approximately 1,000 feet from the northwest boundary of the proposed sale. Approximately 1,500 feet of the southeast boundary is adjacent to a 20 year old plantation.

The Mashel River WAU has been heavily influenced by a wide range of activities including but not limited to: fires, agriculture, urban growth, and logging. Consequently, the structural diversity and age of the stands within the WAU varies. In the western portion of the WAU, agriculture, urban growth and logging have had the greatest influence on structural diversity and age. Large portions of the area formerly owned by private timber companies have been logged and then converted into farms or subdivided for real estate development. This portion of the WAU contains a large number of scattered tracts of second growth timber (40-70 years of age) owned by small private landowners. The following conifer species are found throughout the WAU: Douglas-fir, western hemlock, western red cedar, and spruce. The primary hardwood species in the WAU are red alder, cottonwood, and big leaf maple.
In the eastern portion of the WAU, logging and fire have had the greatest impact on the structural diversity and age. The primary landowners in this part of the WAU are large private timber companies and the State of Washington. These areas have been intensively managed for over 40 years. Small private landowners hold a segment of this area running along the Nisqually River from Elbe to Mt. Rainier National Park. It is rural in nature and similar to the western portion of the WAU. The majority of the private lands in this portion of the WAU have been harvested. The bulk of State land lies within this portion of the WAU. Approximately fifteen percent of the State land has been harvested within the last 20 years. The remaining stands are 40 years old or greater.

The majority of the stands in the Ashford WAU are composed of second growth stands of Douglas-fir, western hemlock, and western red cedar at the lower elevations. Stands of red alder, cottonwood, and big leaf maple can be found scattered throughout the second growth. The basic stand structure of the stands in the lower elevations of WAU is comprised of the dominant and co-dominant trees with vertical layering. Intermediate and suppressed trees are found in managed stands under the canopy. Small openings tend to support a variety of tree and brush species. There is little decadence and few snags, except in those stands over 100 years in age. The majority of the managed plantations in the WAU range in age from 1 to 25 years old. In the higher elevations plantations of noble fir, pacific silver fir, and mountain hemlock exist intermingled with stands of old growth. There are few stands remaining in the WAU that are over 90 years of age. These stands are generally found in the higher elevations, and are predominantly made up of Douglas-fir and true fir. These stands exhibit the structural diversity common to old growth, tend to be un-even aged, and are 300+ years of age.

2) Retention tree plan:

The total number of leave trees is seven percent of those trees in the stand that are over 12 inches in diameter. For this stand, 10 trees per acre will be left. These leave trees are a representative sample of those species found in the existing stand. The implementation of this strategy will assure the recruitment of important structural components for future wildlife habitat.

c. List threatened or endangered plant species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
NONE FOUND				

A review of P&T special concerns report and the Natural Heritage Data base along with site visits found no sensitive plant species.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The harvested area will be replanted with 302 Douglas fir seedlings per acre, within two years after the completion of harvest activities. In addition 830 wildlife and green recruitment trees will be left after harvest.

5. **Animals**

a. Circle or check any birds and animals or unique habitats which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☐songbirds, ☐pigeon, ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☒beaver, ☐other:
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐talus slopes, ☐caves, ☐cliffs, ☐oak woodlands, ☐balds, ☐mineral springs

b. List any threatened or endangered species known to be on or near the site (include federal- and state-listed species).

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
1	35681	BALD EAGLE	THREATENED	THREATENED

The proposed sale is within a Designated Northern Spotted Owl Dispersal Management Area. This proposal will not reduce the Dispersal Management Area below the 50% threshold. This proposal combined with all other sales to be offered from July 1, 2003 to July 1, 2004 will not bring the area below threshold. Currently the Mashel Watershed Administrative Unit contains 57% dispersal habitat. The Ashford Watershed Administrative Unit contains 53% dispersal habitat. Information from the DNR's GIS system was used to determine the level of dispersal habitat in the WAUs. A review of the available information served as a check, to assure that the latest information from the Dept of Fish and Wildlife and the DNR's GIS system was being used.

c. Is the site part of a migration route? If so, explain.

☒Pacific flyway ☐Other migration route: Explain if any boxes checked:
Ponds and wetlands are used as resting and foraging areas for migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

Leave trees were selected from the dominant and co-dominant trees within the proposed sale area. The wildlife trees were chosen from those trees that are deformed or damaged. Every effort will be made to ensure that the leave trees and wildlife trees are well distributed throughout the proposed sale area. Additionally those hard snags that are safe to leave standing will be left. The proposed unit will have buffers protecting the forested wetlands and streams adjacent to the sale area. These buffers not only protect the water quality of the streams and wetlands but also provide shelter and foraging areas for wetland and riparian dependent species that are indigenous to the area. The development of the scattered leave trees and the existing snags over time will promote structural diversity, assure the development of a biological legacy, while providing nesting, foraging, roosting habitat for cavity dwellers known to use the area. No harvest operations will occur within the buffers established on the wetlands or the streams adjacent to the sale area. Every effort will be made to ensure that the leave trees are well distributed throughout the sale area

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species/Habitat: Riparian Protection Measures: HCP Buffers

Species/Habitat: Upland Protection Measures: Scattered Leave Trees

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum products used for equipment.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so describe.

Minimal health hazard due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. The risk of forest fire is always present and will be increased for approximately two years following harvest due to logging slash.

1) Describe special emergency services that might be required.

The Dept of Natural Resources, Private, and Rural Fire Department suppression crews maybe needed in case of wildfire. Emergency medical services for personnel injuries. Hazardous material spills may require Dept. of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Compliance with State fire laws, fire equipment will be required on site during the closed fire season. Operations will cease if relative humidity falls below 30 percent.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

There will be short-term, low-level and high level noise created by the use of harvesting equipment within the sale area. This type of noise has been historically present in this geographical area. The typical hours of operation will be Monday through Friday from 6:00 a.m. to 5:00 p.m.

3) Proposed measures to reduce or control noise impacts, if any:

None

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? (Site includes the complete proposal, eg. rock pits and access roads.)

Timber Production and Forest Management

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Forest Resource Zone

f. What is the current comprehensive plan designation of the site?

Timber Production

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

Does not apply

j. Approximately how many people would the completed project displace?

Does not apply

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is located in the Forest Resource Zone of Pierce County. The current proposal is compatible with that designation. The use of harvest planning information, adherence to the Forestry Handbook along with information taken from DNR's GIS system assure that this proposal is compatible with the existing and projected land uses and plans. The Pierce County Land Use Plan and DNR's Forestry Handbook are on file at the DNR's Regional office at Enumclaw.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Does not apply

b. What views in the immediate vicinity would be altered or obstructed?

The middle ground view shed as seen from the higher ridges in the immediate area will be altered as well as the foreground view from the forest road adjacent to the proposed harvest area.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?

☒No ☐Yes, viewing location:

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?

☒No ☐Yes, scenic corridor name:

3) How will this proposal affect any views described in 1) or 2) above?

Does not apply

c. Proposed measures to reduce or control aesthetic impacts, if any:

Where possible the natural terrain was used to lessen the aesthetic impact of the harvest units. The buffers adjacent to streams and wetlands in combination with the scattered leave trees will assist in easing any visual or aesthetic impacts created by the harvest operations. The relationship and location of the harvest to past activities will create a scattered or fragmented look across the landscape.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply

d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are no designated recreational trails within the proposed sale area. Hunters and hikers heavily use the area.

b. Would the proposed project displace any existing recreational uses? If so, describe:

The proposed activity will temporarily displace hunters and hikers who use the area.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None

13. **Historic and Cultural Preservation**

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None known

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

None

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The Elbe Hills State Forest is accessed from Highway 7 and Highway 706.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

Traffic from this operation will marginally increase noise, dust and vehicle density that may temporarily result in a decrease in safety. Truck traffic from this individual operation will not increase the need for public road maintenance.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the nearest public transit is 20 miles away in Eatonville.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways?
If so, generally describe (indicate whether public or private).

Yes, refer to the roads information in A. 11 of this document.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will not be any change over historical norms.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

There will be 8 to 10 round trips per day while the operation is active. Peak volumes would occur during the yarding and loading activities between 6 am and 5 pm of the operating period.

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. **Public Services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Wildfire would require a response from DNR and county fire crews. Industrial accidents would need emergency medical services from the county.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. **Utilities**

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Does not apply

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Edward S Keeley Date: 8/18/02
Eatonville Unit Forester

Reviewed by: _____ Date: _____
Herb Cargill, Operations Manager

Approved by: _____ Date: _____
Gretchen Nicholas, South Puget Sound Region Manager